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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,036	03/25/2004	Neil Andrew Abercrombie Simpson	CRUI/0011	5819

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WILLIAM B. PATTERSON
MOSER, PATTERSON & SHERIDAN, L.L.P.
Suite 1500
3040 Post Oak Blvd.
Houston, TX 77056

EXAMINER

LE, HUNG CHARLIE

ART UNIT PAPER NUMBER

3725

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/809,036

Applicant(s)

SIMPSON ET AL.

Examiner

Hung C. Le

Art Unit

3725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 81 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 81 is/are rejected.
- 7) ☒ Claim(s) 4 and 42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>08/20/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if

the required "Sequence Listing" is not submitted as an electronic document on compact disc).

The specification is objected to as all claimed features need to be disclosed in details in the specification. Appropriate correction is required.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "varying restriction to fluid flowing through...., a fluid pressure driving force..., isolating a volume of fluid...., means for creating pressure pulses in a fluid..., means for injecting a fluid into fluid operatively associated with...., a rotary expander...., plurality of seal members...." must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended.

The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional

replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 4 & 42 are objected to because of the following informalities: similar claim nature. Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claim 2 recites the limitation "the nature" in Line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the direction" in Line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 23 recites the limitation "the pressure" in Line 1. There is insufficient

antecedent basis for this limitation in the claim.

Claim 29 recites the limitation "the amplitude" in Line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 30 recites the limitation "the frequency" in Line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 31 recites the limitation "the form" in Line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 34 recites the limitation "the form" in Line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 37 recites the limitation "the range" in Line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 44 recites the limitation "the driving force" in Line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 51 recites the limitation "the diameter" in Line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 20, 26, 27, 29, 31 – 36, 38 - 44, 46, 48, 50 – 54, 56 – 64, 66, 67, 70 – 74, 79 – 81 are rejected under 35 U.S.C. 102(b) as being anticipated by Tooker (4,204,312).

With respect to Claims 1, 56, 57, 79, 80 & 81:

Tooker discloses: A method of expanding tubing (3), the method comprising:
locating an expansion device (4) in tubing (3) to be expanded;
vibrating at least one of the tubing (3) and the expansion device (4); and
translating the expansion device (4) relative to the tubing (3) (See FIG. 1).

With respect to Claims 2 & 59:

Tooker further discloses: the nature of the vibration of at least one of the tubing

(3) and the expansion device (4) is selected to reduce friction between the tubing (3) and the device (4) (See FIG. 1).

With respect to Claims 3 & 60:

Tooker further discloses: the vibration of at least one of the expansion device (4) and the tubing (3) is selected to substantially avoid static friction between contacting surfaces of the expansion device (4) and the tubing (3) (See FIG. 1).

With respect to Claims 4, 42 & 58:

Tooker further discloses: a driving force is applied to translate the expansion device (4) through the tubing (3) (See FIG. 1)

With respect to Claim 5:

Tooker further discloses: the driving force remains substantially constant as the expansion device (4) is translated through the tubing (3) (See FIG. 1).

With respect to Claim 6:

Tooker further discloses: The direction of the vibration includes an element selected from at least one of: random, multi-directional, axis, transverse and rotational (See FIG. 1).

With respect to Claims 7 & 61:

Tooker further discloses: at least a major portion of the expansion device (4) is subject to vibration (See FIG. 1).

With respect to Claims 8 & 62:

Tooker further discloses: Only a selected portion of the expansion device (4) is subjected to vibration (See FIG. 1).

With respect to Claim 9:

Tooker further discloses: A surface portion of the device (4) is subject to vibration (See FIG. 1).

With respect to Claim 10:

Tooker further discloses: Portions of the expansion device (4) experience different forms of vibrations (See FIG. 1).

With respect to Claim 11:

Tooker further discloses: at least a substantial portion of the tubing (3) is vibrated (See FIG. 1).

With respect to Claim 12:

Tooker further discloses: Only a selected portion of the tubing (3) is vibrated (See FIG. 1).

With respect to Claim 13:

Tooker further discloses: A portion of the tubing (3) adjacent the expansion device (4) is vibrated (See FIG. 1).

With respect to Claim 14:

Tooker further discloses: A surface portion of the tubing (3) is vibrated (See FIG. 1).

With respect to Claim 15:

Tooker further discloses: The vibration induces physical movement of at least one of the expansion device (4) and tubing (3) (See FIG. 1).

With respect to Claim 16:

Tooker further discloses: The vibration induces contraction and expansion of at least a portion of at least one of the expansion device (4) and the tubing (3) (See FIG. 1).

With respect to Claim 17:

Tooker further discloses: The vibration takes the form of at least one wave traveling through at least one of the expansion device (4) and the tubing (3) (See FIG. 1).

With respect to Claim 18:

Tooker further discloses: The vibration is created locally relative to the tubing being expanded (See FIG. 1).

With respect to Claim 19:

Tooker further discloses: The vibration is created remotely of a tubing expansion location, and travels to the expansion location (See FIG. 1).

With respect to Claims 20 & 63:

Tooker further discloses: Creating the vibration with a moving mass (See FIG. 1).

With respect to Claim 26:

Tooker further discloses: Coupling a source of vibration to at least one of the expansion device (4) and the tubing (3) (See FIG. 1).

With respect to Claims 27 & 64:

Tooker further discloses: Directly coupling a source of vibration to at least one of the expansion device (4) and the tubing (3) (See FIG. 1).

With respect to Claim 29:

Tooker further discloses: The amplitude of the vibration is selected from at least one of constant, varying and random amplitude (See FIG. 1).

With respect to Claim 31:

Tooker further discloses: The form of the vibration is selected from at least one of constant, varying and random form (See FIG. 1).

With respect to Claim 32:

Tooker further discloses: The vibration is of high frequency (See FIG. 1).

With respect to Claim 33:

Tooker further discloses: The vibration is ultrasonic (See FIG. 1).

With respect to Claim 34:

Tooker further discloses: The form of the vibration is selected such that the vibration is not apparent as physical movement (See FIG. 1).

With respect to Claim 35:

Tooker further discloses: The vibration is induced electromagnetically (See FIG. 1).

With respect to Claim 36:

Tooker further discloses: The vibration is of relatively low frequency (See FIG. 1).

With respect to Claim 38:

Tooker further discloses: The vibration comprises a plurality of different components (See FIG. 1).

With respect to Claim 39:

Tooker further discloses: The vibration comprises a low frequency component and a high frequency component (See FIG. 1).

With respect to Claim 40:

Tooker further discloses: The vibration is selected to coincide with a natural frequency of at least one of the expansion device (4) and the tubing (3) (See FIG. 1).

With respect to Claim 41:

Tooker further discloses: The vibration is selected to avoid a natural frequency of at least one of the expansion device (4) and the tubing (3) (See FIG. 1).

With respect to Claim 42:

Tooker further discloses: applying a driving force to the expansion device (4) to translate the expansion device (4) relative to the tubing (3) (See FIG. 1).

With respect to Claim 43:

Tooker further discloses: Applying a mechanical driving force to translate the expansion device (4) relative to the tubing (3) (See FIG. 1).

With respect to Claim 44:

Tooker further discloses: The driving force comprises at least one of a pulling, pushing and torsional force (See FIG. 1).

With respect to Claim 46:

Tooker further discloses: The expansion device (4) is in sliding contact with the tubing (3) (See FIG. 1).

With respect to Claim 48:

Tooker further discloses: The expansion device (4) is translated axially relative to the tubing (3) (See FIG. 1).

With respect to Claim 50:

Tooker further discloses: Expanding the tubing (3) by creating localized compression yield in the tubing wall (See FIG. 1).

With respect to Claim 51:

Tooker further discloses: Varying the diameter of the expansion device (4) (See FIG. 1).

With respect to Claim 52:

Tooker further discloses: Creating a pressure differential across a wall of the tubing (3) (See FIG. 1).

With respect to Claim 53:

Tooker further discloses: The pressure differential applied across the tubing wall is varied (See FIG. 1).

With respect to Claim 54:

Tooker further discloses: The pressure differential is cycled (See FIG. 1).

With respect to Claim 66:

Tooker further discloses: The expansion device (4) comprises an expansion cone (4a) (See FIG. 1).

With respect to Claim 67:

Tooker further discloses: The expansion cone (4a) is adapted for sliding contact with the tubing (3) (See FIG. 1).

With respect to Claim 70:

Tooker further discloses: The expansion device (4) defines a fixed expansion diameter (See FIG. 1).

With respect to Claim 71:

Tooker further discloses: The expansion device (4) comprises a variable expansion diameter (See FIG. 1).

With respect to Claim 72:

Tooker further discloses: The expansion device (4) is compliant (See FIG. 1).

With respect to Claim 73:

Tooker further discloses: Means for creating a pressure differential across a tubing wall adjacent the expansion device (4) (See FIG. 1).

With respect to Claim 74:

Tooker further discloses: Means for creating a varying pressure differential across a tubing wall adjacent the expansion device (4) (See FIG. 1).

Allowable Subject Matter

Claims 21 – 25, 28, 30, 37, 45, 47, 49, 55, 65, 68, 69, 75 - 78 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set

forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung C. Le whose telephone number is 571-272-8757. The examiner can normally be reached on M-F: 08:00am - 05:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on 571-272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/809,036

Page 17

Art Unit: 3725

02/04/06

A handwritten signature in black ink, consisting of a large, stylized 'D' followed by a series of loops and a long horizontal stroke extending to the right.

DERRIS H. BANKS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700